New American Embassy, Oslo, Norway

Background
The American Embassy in Oslo intends to vacate its current building on Henrik Ibsens Gate in central Oslo and relocate to a site at the corner of Sorkedalsveien and Morgedalsvegen, in Huseby. The current embassy building has become too small for the size of the Oslo mission, and its site cannot accommodate the features required for a modern American embassy. Einhorn Yaffee Prescott Architecture & Engineering, PC (EYP) has been working with the United States Department of State, Bureau of Overseas Building Operations (OBO) since 2005 to design new facilities for the Huseby site. Carol R. Johnson Associates (CRJA) has been working with EYP as landscape architect for the project and Spor Arkitekter, of Oslo, is local consulting architect.

EYP and OBO met with the City of Oslo Planning and Building Agency (OPBA) in November, 2008 to review the new embassy design as was included with an application for a Framework Permit. OPBA requested at that time that the Department of State take steps to improve the quality of design for this significant civic building. This request coincided with changes in OBO's method of procurement for foreign missions, and both OBO and EYP embraced the opportunity to significantly improve the design quality of the project.

OBO, EYP, CRJA, Spor, and OPBA met in December, 2009 and again in early January, 2010 in a total of four meetings to discuss the revised design. The current design has benefitted significantly from this dialog between the project owner, the design team, and the local planning and building agency.

Site
The project site is a 4 hectare parcel bounded on the north by Sorkedalsveien and on the east by Morgedalsvegen. Immediately across those two streets are detached houses (north of Sorkedalsveien) and the Njardhallen Sports Club (east of Morgedalsvegen). The site is currently a greenfield site characterized by a natural landscape. A native rock outcropping marks the northeast corner of the site, at the intersection of the two streets. A mature tree line borders the site to the southwest, and a meadow connects the site to the bordering natural landscape immediately to the west. The internal landscape of the site is characterized by a seasonal stream that flows from northwest to southeast, with typical wetland tree growth along its banks, and two large areas of meadow – one at the northern periphery (along Sorkedalsveien) and a second one in the center of the site, between the stream bed and the mature tree line at the south and west. The topography of the site is significant, falling 15 meters from the southwest boundary to the northeast corner.

Program
The new American Embassy in Oslo will be comprised of a Chancery office building, a Marine Guard Residence, a Main Entry Pavilion, a Consular Entry Pavilion, a Service Entry Pavilion, and an underground Support Annex containing parking and maintenance storage facilities. Total building area will be approximately 7,500 square meters.

Design Goals
In its design brief to architects designing American embassies abroad, the Department of State expresses four primary design objectives. These are that the buildings meet the functional requirements of a modern American embassy, that the design be a specific response to the character of its site, that the buildings represent an open and free democracy, and that the design in some way illustrates the intersection of American and host country cultures.

When OBO and EYP met with OPBA in November 2008, OPBA stated four specific goals for a revised design. One was to retain and make evident the landscape character of the seasonal stream. A second was to manipulate the site topography more naturally, especially where the landscape continues over the roof of the underground parking garage. A third was to allow the entire site, and specifically its edges, to be more naturalistic. Finally, a fourth goal was to improve the scale, massing, and architectural character of the main Chancery office building. OPBA felt that the initial design was too rigid and repetitive in nature, especially as it faced Sorkedalsveien to the north.

Precedent and Inspiration
EYP and OBO spent several days in Oslo in November 2008 looking at both contemporary and historical Norwegian architecture. We were struck by the quality of form, materials and architectural detail in buildings as diverse as the Opera, Mortensrud Church, the Ibsen Quarter, and the Eitzen Group office building. We were equally struck by the relevance of the Akershus Fortress, especially with regard to the relationship between building and landscape. Akershus is notable in how the internal carriageways wind up the steep topography between trees, walls and buildings, and in how the buildings dig themselves into the terrain, using stone retaining walls to mediate visually and physically between building and landscape and to allow significant portions of buildings to be built into the hill. As a more contemporary example, Mortensrud Church successfully uses materials and siting to root a building into the vertical stands of trees and horizontal rock outcroppings of its landscape.

As we revisited the project site in November, 2008, four aspects of its landscape struck us most strongly: the seasonal stream (both as an evident mechanism for stormwater management and as the sponsor of its adjacent riparian environment), the verticality of stands of birch, the geology of the prominent rock outcropping at the northeast corner, and the dense tree line of the southwest site boundary.

Several sources provided direct inspiration to the current design and our attempt to represent an intersection of Norwegian and American culture. One is the Norwegian affection for tall windows to capitalize on precious hours of daylight. The Fokus Bank building on Stortingsgata utilizes north facing floor to ceiling windows toward this end, consistent with our analysis that daylighting may provide greater sustainable design benefit than the cost of north facing glazing in this environment. Further, its use of tall wooden mullions within the composition recollects stands of vertical trees, whether birch or spruce, symbolic of both the Norwegian landscape in general, and the Huseby site in particular. On the opposite end of the spectrum the Norwegian longhouse, with its sheltering roof line and natural fieldstone wall appears firmly rooted in the native landscape. Finally, we were intrigued to learn that the copper sheathing of the Statue of Liberty was mined in Norway, near Visnes. Thus the use of copper seemed to be a meaningful way to represent both the industrial history of Norway and a highly symbolic cultural intersection between Norway and America.

Design Concept
The general site organization of the current scheme is largely similar to the initial design of 2006, particularly with regard to the location of the Chancery and the perimeter Entry Pavilions and the general delineation of the perimeter site boundary. The new design, however, has been revised in specific response to the comments of OPBA. The seasonal stream bed will be restored to a riparian environment. The landscape topography above the underground Support Annex has been designed with a natural appearance that is organic to the site.

The design of the Chancery has been developed to better respond to site conditions and to accentuate those areas of the building that have public significance. The south wing has been placed at an angle to the north wing, in a more direct response to the stream bed, the site topography, and the site geometry, simultaneously creating a more open, inviting main entry. The Chancery entry and its cafeteria, the two most public program elements, are oriented to the east and northeast, respectively, and are articulated through massing, fenestration, and roof form to convey their public significance.

Landscape Design
Conceptually, the landscape design focuses on four areas. First is the restored riparian environment of the stream bed. The area of its outfall into the site will be preserved, both with regard to the stream bed and the adjacent vegetation. Downstream, its path will be altered to wrap to the south of the Chancery, terminating in a detention

area. In addition to preserving and restoring a singular aspect of the site landscape, the reinvigorated stream bed will both meet and visually illustrate sustainable design practices of stormwater management.

Second is the topography and deep green roof above the underground Support Annex. The Support Annex will have a green roof, in the most literal sense of the term, complete with significant trees. This area of the design was influenced by aspects of Akershus Fortress, whereby the entry points to the underground structure utilize slate fieldstone at their retaining walls. Thus, where underground building meets landscape, the form and materials of the revealing structural walls appear natural rather than purely functional.

Third, the southwest site perimeter will be characterized by the retention of the mature tree line along this boundary, as well as by the use of a meandering curved fence.

Finally, the site perimeter will receive a variety of landscape treatments to establish a secure perimeter while responding to the hierarchical significance and existing landscape features of different parts of the site. As mentioned above, the southwestern boundary will retain its natural character by virtue of the location and shape of a meandering fence and by the strategic placement of natural boulders. Moving clockwise from south toward north, the western boundary will be characterized by a low fence, allowing a view over the top of the fence from the higher elevation of the meadow to the west of the site.

Along the northern boundary, fronting on Sorkedalsveien, the primary street, the perimeter includes a drop off zone of linear stone paving that connects to the Consular Entry Pavilion. This linear paving pattern continues through the entry pavilion and onto the Embassy grounds, where it will lead the visitor to the Consular Entry to the Chancery. Continuing east along Sorkedalsveien, an existing swale will be extended and bounded with a low retaining wall of slate fieldstone along the edge of the site. Inboard of the slate wall will be a perimeter fence.

At the corner of Sorkedalsveien and Morgedalsvegen, as the hierarchically most public part of the site, the fence will sweep in a grand arc. This arc will contain the area of the site that has archaeological significance. In combination with the arc of the fence, there will be few trees in this corner of the site, and natural meadow grasses will combine with the existing natural rock outcropping at the north end of Morgedalsvegen, which will be retained and incorporated into the perimeter boundary. All of these devices will serve to accentuate the hierarchical significance of this corner of the site, and reinforce the public nature of the northeast corner of the Chancery beyond.

The linear stone paving pattern connecting the Consular Entry Pavilion to the Consular Entry to the Chancery will be repeated to connect the Main Entry Pavilion along Morgedalsvegen to the main entry to the Chancery, directly west of the Pavilion. This use of a linear stone pattern is inspired by the linear striation of Norway's natural geological formation and by the natural seams that frequently appear within the beds of geological strata.

Planting materials will be indigenous species, including maple, birch, and aspen, taking clues from the tree species and meadow grasses that already exist on the site.

Architectural Design

Architecturally, two formal and material devices will serve to connect all of the buildings on the site. All above-ground buildings will have an overhanging patinated copper cornice (or a copper roof, in the case of the Marine Residence). In some cases this is a practical device, providing shelter from rain or snow at the entry pavilions, and sometimes it is more symbolic, providing a strong image of a unifying horizontal line at the Chancery. Above the Chancery cafeteria, as the most public gathering place of the Embassy, the mass of the building will be physically separated from the copper cornice, forming a floating roof plane with a large hole in its center. The visual strength of this floating plane and its square cut-out will reinforce the civic importance of the Embassy as seen from the most prominent approach at the corner of Sorkedalsveien and Morgedalsvegen. The copper cornice forms a thread that connects each building to the other and is intended to symbolize a cultural connection between Norway and America reminiscent of the copper sheathing of the Statue of Liberty.

Similarly, the three Entry Pavilions and the Marine Residence will each be clad with slate fieldstone. At the Main Entry Pavilion, a single wall plane will be built of white Norwegian granite, creating a formal backdrop for the signage and seal announcing the building as the Embassy of the United States of America. At the Marine Residence, the fieldstone will be the predominant material. In combination with its patinated copper roof, sloped to mimic the slope of the topography, the Marine Residence will appear to grow naturally out of the earth, as do many traditional Norwegian structures. At the Chancery, as the hierarchically most significant building on the Embassy grounds, the slate fieldstone will form a base, hugging the topography as it touches the building, while white Norwegian granite will be used as the primary cladding material for this building. The granite will be more precise, with dressed edges, representing the civic significance of the Chancery.

The device of the horizontal copper cornice will be extended to form deep horizontal canopies at the Consular entry, on the northwest corner of the Chancery, and the main entry, at the east of the building between the north and south bars. At the main entry, this welcoming canopy will create a sheltering porte cochere for diplomatic vehicles that enter the Embassy grounds.

The Chancery entry lobby will be a single floor volume, located on the lowest floor. Above this single floor volume, a roof terrace will be located immediately south of the two-story Cafeteria. Combining a green roof with linear stone paving as used in the landscape, this terrace will be accessible from the Cafeteria in sunny weather.

Window openings in the Chancery are 3 meters tall, in an attempt to capture as much daylight as possible. Our energy analysis concluded that the heat loss through glazing at the north façade is not appreciably different from that on the other façades in the Norwegian winter, nor does heat gain in summer become the controlling environmental factor. Rather, it is the ability to capture as much daylight as possible that appears to be the appropriate controlling environmental design criterion. On the south façade, external horizontal sun shades will be employed to mitigate the effect of glare.

Important program areas of the building, such as the Cafeteria and the Consular Area, will be articulated on the façade through the use of tall vertical windows separated by thin copper fins. Here, the copper will be left in its more initial orange-brown state, in part to provide contrast to the patinated copper used horizontally, and in part to suggest the color of wood, symbolic of the stands of birch that symbolize for us the native vegetation of the site and of Norway in general. At the Cafeteria, these windows will be two stories tall, providing daylight on three sides of the space, offering views out to the streets, neighborhood, and ski jump beyond, and serving as a glowing symbol of openness and transparency at dawn and dusk.